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*Hawley's*  
**Condensed Chemical**  
**Dictionary**  
*Fourteenth Edition*

Revised by  
**Richard J. Lewis, Sr.**



JOHN WILEY & SONS, INC.

pounds. It is present in aldehydes, ketones, organic acids, and sugars and in the carboxyl group, i.e.,



In combination with transition metals, it forms coordination compounds that are highly toxic, because they decompose to release carbon monoxide when absorbed by the body, e.g., nickel carbonyl. Several metal carbonyls have antiknock properties. The carbonyl group is also found in combination with non-metals, as in phosgene (carbonyl chloride); these compounds are also poisonous.

**carbonyl sulfide.** (carbon oxydisulfide).

CAS: 463-58-1. COS.

**Properties:** Colorless gas with typical sulfide odor except when pure. D gas 2.1 (air = 1), fp -138.8°C, bp -50.2°C (1 atm). Soluble in water and alcohol.

**Derivation:** Hydrolysis of ammonium or potassium thiocyanate.

**Hazard:** Narcotic in high concentrations. Flammable, explosive limits in air 12-28.5%.

**carborphenothion.** (generic name for S-[(p-chlorophenyl)thio]methyl)-O,O-diethyl phosphorodithioate; O-O-diethyl-S-(p-chlorophenylthiomethyl) phosphorodithioate).  
(C<sub>12</sub>H<sub>10</sub>O)<sub>2</sub>P(S)SCH<sub>2</sub>S(C<sub>6</sub>H<sub>4</sub>)Cl.

**Properties:** Amber liquid. Bp 82°C (0.1 mm Hg), d 1.29 (20°C). Essentially insoluble in water; miscible with common solvents.

**Hazard:** Use may be restricted. A cholinesterase inhibitor.

**Use:** Insecticide, acaricide.

**carborane.** A crystalline compound composed of boron, carbon, and hydrogen. It can be synthesized in various ways, chiefly by the reaction of a borane (penta- or deca-) with acetylene, either at high temperature in the gas phase or in the presence of a Lewis base. Alkylated derivatives have been prepared. Carboranes have different structural and chemical characteristics and should not be confused with hydrocarbon derivatives of boron hydrides. The predominant structures are the cage type, the nest type, and the web type, these terms being descriptive of the arrangement of atoms in the crystals. Active research on carborane chemistry has been conducted under sponsorship of the U.S. Office of Naval Research.

**"Carborundum"** [Carborundum]. TM for abrasives and refractories of silicon carbide, fused alumina, and other materials.

**Properties:** For silicon carbide, crystalline form ranges from small to massive crystals in the hexagonal system, the crystals varying from transparent to opaque, with colors from pale green to deep blue or black; hardness Mohs 9.17; d 3.06-3.20. Noncom-

bustible, not affected by acids, slowly oxidizes at temperatures above 1000°C, good heat dissipator, highly refractory.

**Use:** Abrasive grains and powders for cutting, grinding, and polishing; valve-grinding compounds; grinding wheels; coated abrasive products; antislip tiles and treads; refractory grains.

**carbosand.** Fine sand that has been treated with an organic solution and roasted to produce a material that can be sprayed onto oil slicks to aid in sinking or dispersing them.

**"Carboset"** [B. F. Goodrich]. TM for water-soluble acrylic thermoset and thermoplastic products.

**Use:** Protective metal coatings, paints, ceramics, adhesives, textiles, paper, leather, and cosmetics.

**-carbothioic.** A suffix denoting an organic acid in which an atom of sulfur replaces an atom of oxygen.

**-carbothionic.** A suffix of organic acids in which the oxygen of the CO group has been replaced by sulfur.

**"Carbowax"** [Dow]. TM for polyethylene glycols and methoxypolyethylene glycols.

**Grade:** Available in various numbered grades, i.e., 200, 400, 1000, 4000, 6000. Usually designated by approximate molecular weight of polymer.

**Use:** Water-soluble lubricants; solvents for dyes, resins, proteins; plasticizers for casein and gelatin compositions, glues, zein, cork, and special printing inks; solvent and ointment bases for cosmetics and pharmaceuticals; intermediates for nonionic surfactants and alkylid resins.

**carboxamidoacetamide.** See malonamide.

**carboxybenzene.** See benzoic acid.

**2-carboxy-2'-hydroxy-5'-sulfoformazylbenzene.** (o-[α-(2-hydroxy-5-sulphophenyl)-azobenzylidene]-hydrazino benzoic acid).

HO<sub>3</sub>SC<sub>6</sub>H<sub>4</sub>(OH)N:NC(C<sub>6</sub>H<sub>4</sub>):NNC<sub>6</sub>H<sub>4</sub>COOH.

**Use:** Reagent used for the colorimetric determination of zinc and copper.

**carboxylase.** A decarboxylase enzyme, found in plant tissues that acts on pyruvic acid, producing acetaldehyde and carbon dioxide.

**Use:** Biochemical research.

**carboxyl group.** The chemical group characteristic of carboxylic acids which include fatty acids and amino acids. It usually occupies the terminal position in the molecule and is capable of assuming a negative charge, which makes the end of the molecule water soluble. Though it is customarily shown

as either CO<sub>2</sub> is

Thus it is hydroxyl group bon-oxyge: is of a dif unsaturatio acids. For t bond is pre called satur

**carboxylic**  
ic acids co groups (C<sub>1</sub> phatic), ter Exceptions (HCOOH) number of 26 (cerotic counted as clude the la may be eit tain halog some natu salicylic), ; moogric). See amino

**carboxyme**  
(H<sub>2</sub>NOC vulsant act boxylase a transamina acid conce sugarcane, toxin deri  
**Properties:** 156°C (dec  
**Grade:** 98'

**carboxyme**  
boxymethy CAS: 900 polymer in on the gluc ether linka Since the r product is R-CH<sub>2</sub>CO  
**Properties:** ible powd tensile stre 6.5-8.0, st solution v; extent of e Reacts wit insoluble i